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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/053,237 04/01/98 COHEN

E CIS-032-B

EXAMINER

LM02/0912

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MOUNTAIN VIEW CA 94039-0013

EL ALI AM, A

ART UNIT

PAPER NUMBER

2738

DATE MAILED:

09/12/00

12

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

[Signature]
1. File Copy

Office Action Summary

Application No.
09/053,237

Applicant(s)
Cohen

Examiner
Ahmed Elallam

Group Art Unit
2738



☒ Responsive to communication(s) filed on Apr 1, 1998

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-16 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-16 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☒ The drawing(s) filed on Apr 1, 1998 is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s) 5-6 and 9-11, 13

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

DETAILED ACTION

Drawings

1. The drawings are objected to because of the following:

The drawing on Fig .1 and Fig .2 are missing descriptive labels.

The drawing of Fig .5, referred to in the specification on page 10, line 13, is missing.

Additionally, the transmittal letter filed on April 1, 1998 indicates the transmittal of 4 drawing sheets, the 4 drawing sheets are received, but they do not include Fig .5.

Correction is required.

Information Disclosure Statement

2. The information disclosure statements filed on May 10, 1999 and June 16 fail to comply with 37 CFR 1.98(a)(1), which requires a list of all patents, publications, or other information submitted for consideration by the Office. It has been placed in the application file, but the information referred to therein has not been considered.

Claim Objections

3. Claim 8 is objected to because of the following informalities:

Claim 8 is identical to claim 7. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-10 and 13-16 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Regarding claims 1 and 15, the specification does not adequately describe the compilers.

Regarding claim 4 and 13, the specification does not adequately describe the "at least one structure includes a bus". More precisely the specification does not describe a bus connecting a plurality of route processing engines to the compilers and how the connection is made.

Regarding claims 7, 8 and 14, the specification does not adequately describe the "hashing function is designed to maintain the original order of packets in the same flow while allowing packets in different flows to be processed out of order".

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, the term "compiler" is confusing because it does not have a function, the term is vague.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 1, 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schnell, US (5,923,654).

Regarding claim 1, with reference to Fig .2, Schnell discloses a network switch, comprising:

- a plurality of port adapters (IOPORT1,..., IOPORT24) connected to a hashing logic (216) (compiler),
- a plurality of packet processing elements (212, 214),
- a hash logic (216), (corresponding to compiler)
- a switch controller in combination with buffers (206),

- an input switch and output switch (200) in connection with the port adapters and the
and the HASH LOGIC (216).

However, Schnell discloses only one hashing logic (216).

Therefore, it would have been obvious to a person of ordinary skill in the art, at the time the invention was made to have a plurality of hash logic entities of Schnell instead of one entity so to increase the processing of the system.

Regarding claim 3, with reference to Fig .2A, Schnell shows that the switch (200) is a crossbar switch.

Regarding claim 4, Schnell discloses that an arbiter within the hash logic for arbitration of signals per processor, see column 11, lines 47-51. (corresponding to data compilers use a hashing function to distribute packet flows among the plurality of route processing engines).

9. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schnell, US (5,923,654) in view of Ayanoglu, US (6,058,422).

Schnell discloses substantially all the claim limitations of claim 2 except that he does not disclose an uplink connection to an external network connected to a structure.

However, with reference to Fig .2, Ayanoglu discloses an uplink connection between a communication network and a router.

Therefore, it would have been obvious to a person of ordinary skill in the art, at the time the invention was made to have Ayanoglu' s uplink connection with the crossbar switch of Schnell so that Schnell system can provide Internet connections.

10. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Varghese et al, US (5,905,723) in view of Schnell.

Regarding claims 11 and 12, with reference to Fig .1 and 2, Varghese discloses a scalable routing system for distributing packets in a network, comprising:

- a plurality of network interfaces FDOS, FOOS, FDDI, ATM, SONET and SMDS,
- a plurality of Forward Engines (FE) (20, 21), that reads on plurality of route processing engines;
- a crossbar switch interconnecting the network interfaces and the FE;

Varghese further discloses that in routers that have a separate processor in each link card are scalable, see column 5, lines 60-67.

Varghese discloses that forwarding the packets over the links employs either a static or dynamic algorithm to determine how the packets are distributed over the multiple links.

Varghese does not discloses that the network interfaces uses a hashing function to distribute packet flows among the plurality of FE (route processing engines).

Schnell discloses that an arbiter within the hash logic for arbitration of signals per processor, see column 11, lines 47-51.

Therefore, it would have been obvious to a person of ordinary skill in the art, at the time the invention was made to use the hashing arbitration of Schnell in each Forwarding Engine of Varghese instead of the static or dynamic distribution algorithm of packet over links if more circuitry is not that important.

Allowable Subject Matter

11. Claims 5-7, 9, 10 and 13-16 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112 set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Kogge, US (5,475,856); Passint et al, US (5,970,232); Rockert, US (6,035,200).

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to *Ahmed Elallam* whose telephone number is (703) 308-6069. The examiner can normally be reached on Monday through Friday from 8 am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, *Hassan Kizou*, can be reached on (703) 305-4744.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3900.

14. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 308-6743 or (703) 305-3988

For informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,
Arlington, VA., Sixth Floor (Receptionist).

Ahmed Elallam

Serial Number: 09/053,237
Art Unit: 2738

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Patent Examiner
Technology center 2700

September 5, 2000

A handwritten signature in black ink, appearing to read 'Hassan Kizou', is written over the printed name.

HASSAN KIZOU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2700